

TEST No. 8

TOPIC: HEAT BUDGET and TEMPERATURE

SUBJECT: PHYSICAL GEOGRAPHY

Explanation:

Question 1.

Answer - D

Explanation: The earth's surface does not absorb all the energy that it receives. The proportion of the solar radiation reflected from the surface is called **Albedo**.

Although the earth receives energy continuously from the sun, its temperature remains fairly constant, the only variations being the long-term climatic changes. This is so because the atmosphere loses an amount of heat equal to the gain through insolation. This mechanism of maintaining the same temperature by the atmosphere is called the **Heat Budget** or **Heat Balance**.

Question 2.

Answer - C

Explanation: Assuming that 100 units of energy reach the top of the atmosphere of the earth, 14 units are absorbed directly by the atmosphere and 35 units are lost to space through reflection. The remaining 51 units reach the earth's surface and are absorbed by the earth due to which the surface gets heated. The heated surface of the earth starts radiating energy in the form of long waves and this process is called **Terrestrial Radiation**. Out of the total 51 units given up by the surface in the form of terrestrial radiation, the atmosphere (mainly carbon dioxide and water vapour) absorbs about 34 units and the remaining 17 units escape to space. In this manner, the atmosphere receives a total of $14+34=48$ units and this amount is radiated back to space by the atmosphere. The total loss of energy to space thus amounts to 100 units: 35 units reflected by the atmosphere, 17 units lost as terrestrial radiation and 48 units from the atmosphere. In this manner, no net gain or loss of energy occurs in the earth's surface.

Question 3.

Answer - D

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gets heated. The heated surface of the earth starts radiating energy in the form of long waves and this process is called **Terrestrial Radiation**. Out of the total 51 units given up by the surface in the form of terrestrial radiation, the atmosphere (mainly carbon dioxide and water vapour) absorbs about 34 units and the remaining 17 units escape to space. In this manner, the atmosphere receives a total of $14+34=48$ units and this amount is radiated back to space by the atmosphere. The total loss of energy to space thus amounts to 100 units: 35 units reflected by the atmosphere, 17 units lost as terrestrial radiation and 48 units from the atmosphere. In this manner, no net gain or loss of energy occurs in the earth's surface.

Question 4.

Answer - C

Explanation: tides has no relation with spatial distribution of temperature

Question 5.

Answer - A

Explanation: at poles clouds does not play important Role in temperature

Question 6.

Answer - B

Explanation: ALL are correct

Question 7.

Answer - A

Explanation: at poles sun never come high in the sky. Second statement is wrong.

Question 8.

Answer - A

Explanation: twang has high altitude then churu, and The temperature decrease with increasing height. So first statement is correct.

Churu is desert area so it has sandy soil and absorb heat, while twang has dense vegetation, so absorb less heat.

Slope and distance from coast does not relevant here.

Question 8.

Answer - B

Explanation: high humidity increase temperature rather decrease it.